Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.(currently amended) A process to form a first pedestal that is self-aligned with respect to a second pedestal, comprising:

(a) providing a sheet of material having a first thickness and a surface;

(b) forming a temporary mask, having a second thickness and a width that is constant throughout said second thickness[,] and that determines [a] the width of ~~for~~ said first pedestal ~~and that has a second thickness~~, on said surface;

(c) directing an ion beam at said surface, said ion beam being disposed to be at a first angle relative an axis perpendicular to said surface while rotating said sheet relative to said ion beam, about said axis,, through a second angle of up to 180 degrees;

(d) thereby removing material from said surface in a region that extends outwards from a side of the mask closest to the ion beam, whereby a thickness for said first pedestal is determined according to how long the ion beam is active;

(e) also thereby, removing material from said surface in a region that extends outwards from a line parallel to a side of the mask that is furthest from the ion beam, said line being located a distance from the mask that equals said mask thickness times the tangent of said first angle, whereby a width for said second pedestal is determined; and

(f) then rotating the sheet 180 degrees relative to the ion beam following which, with no other steps intervening, repeating steps (c) (d) and (e).

2. (original) The process described in claim 1 wherein the ion beam is stationary and the wafer moves.

3. (original) The process described in claim 1 wherein the wafer is stationary and the ion beam moves.

4. (original) The process described in claim 1 wherein the ion beam and the wafer both move.

5. (original) The process described in claim 1 wherein said first angle is between about 5 and 45 degrees.

6. (original) The process described in claim 1 wherein said second angle is between about 3 and 180 degrees.

7. (original) The process described in claim 1 wherein said second pedestal width is between about 1 and 12 times said first pedestal width.

8. (original) The process described in claim 1 wherein said second pedestal thickness is between about 1 and 3 times said first pedestal thickness.

9. (currently amended) A process to form a first pedestal that is self-aligned with respect to a second pedestal, comprising:

providing a sheet of material having a first thickness and a surface;

forming a temporary mask, having a second thickness and a width that is constant throughout said second thickness[,] and that determines [a] the width of ~~for~~ said first pedestal ~~and that has a second thickness~~, on said surface;

directing an ion beam at said surface, said ion beam being disposed to be at an angle A relative to an axis perpendicular to said surface, while rotating said sheet relative to said ion beam about said axis;

thereby removing material from said surface in a region that extends outwards from a side of the mask closest to the ion beam, whereby a thickness for said first pedestal is determined according to how long the ion beam is active;

and also thereby, removing material from said surface in a region that extends outwards from a line parallel to a side of the mask that is furthest from the ion beam, said line being located a distance from the mask that equals said mask thickness times the tangent of said angle A, whereby a width for said second pedestal is determined; and

wherein, at any given instant in time, A equals B plus an angle whose tangent equals the tangent of B divided by the cosine of C, where B is a fixed angle and C is an angle through which the sheet has rotated at said instant in time, thereby causing A to vary continuously between a minimum value of B and a maximum value of A plus B, thereby enabling formation of pedestals of differing shapes with no loss of alignment.

10. (original) The process described in claim 9 wherein the ion beam is stationary and the wafer moves.

11. (original) The process described in claim 9 wherein the wafer is stationary and the ion beam moves.

12. (original) The process described in claim 9 wherein the ion beam and the wafer both move.

13. (original) The process described in claim 9 wherein said angle A has a maximum value of between about 5 and 45 degrees.

14. (original) The process described in claim 9 wherein said fixed angle B has a value between about 3 and 180 degrees.

15. (original) The process described in claim 9 wherein said second pedestal width is between about 1 and 12 times said first pedestal width.

16. (original) The process described in claim 9 wherein said second pedestal thickness is between about 1 and 3 times said first pedestal thickness.

17. (original) The process described in claim 9 wherein said first pedestal has an aspect ratio between about 1.5 and 30.

18. (currently amended) A process to form a CPP magnetic read head, comprising:

on a substrate depositing a lower lead layer;

depositing a seed layer on said lower lead layer;

depositing an antiferromagnetic layer on said seed layer;

depositing a pinned layer on said antiferromagnetic layer;

depositing a spacer layer on said pinned layer;

depositing a free layer on said spacer layer;

and then depositing a cap layer on said free layer, thereby completing formation of a CPP GMR stack having a first thickness and a surface;

forming on said surface a temporary mask, having a second thickness and a width that is constant throughout said second thickness[,] and that determines [a] the width of a ~~for~~ first pedestal ~~and that has a second thickness~~, then executing the steps of:

(a) directing an ion beam at said surface, said ion beam being disposed to be at a first angle relative an axis perpendicular to said surface while rotating said stack relative to said ion beam, about said axis, through a second angle of up to 180 degrees;

(b) thereby removing material from said surface in a region that extends outwards from a side of the mask closest to the ion beam, until said spacer layer has just been exposed;

(c) also thereby, removing material from said surface in a region that extends outwards from a line parallel to a side of the mask that is furthest from the ion beam, said line being located a distance from the mask that equals said mask thickness times the tangent of said first angle, whereby a width for a second pedestal is determined;

(d) then rotating the stack 180 degrees relative to the ion beam following which, with no other steps intervening, repeating steps (a) (b) and (c);

(e) with said temporary mask still in place, depositing a layer of insulating material over all exposed surfaces and then, by means of a liftoff technique, selectively removing said insulating layer and said mask from over said first pedestal; and

then depositing an upper lead layer on said cap layer and on said insulating layer.

19. (original) The process described in claim 18 wherein said read head has a GMR ratio of at least 1% and a series resistance that is less than about 50 ohms.

20. (original) The process described in claim 18 wherein said first pedestal has sidewalls that are steeper than those of said second pedestal.

21. (original) The process described in claim 18 wherein said first angle is between about 5 and 45 degrees.

22. (original) The process described in claim 18 wherein said second angle is between about 3 and 180 degrees.

23. (original) The process described in claim 18 wherein said second pedestal width is between about 1 and 12 times said first pedestal width.

24. (original) The process described in claim 18 wherein said first pedestal has a thickness between about 100 and 300 Angstroms and said second pedestal has a thickness between about 100 and 300 Angstroms.

25. (currently amended A process to form a CPP magnetic read head, comprising:

on a substrate depositing a lower lead layer;

depositing a seed layer on said lower lead layer;

depositing an antiferromagnetic layer on said seed layer;

depositing a pinned layer on said antiferromagnetic layer;

depositing a spacer layer on said pinned layer;

depositing a free layer on said spacer layer;

and then depositing a cap layer on said free layer, thereby completing formation of a CPP GMR stack having a first thickness and a surface;

forming a temporary mask, having a second thickness and a width that is constant throughout said second thickness, that determines a width for said first pedestal ~~and that has a second thickness~~, on said surface;

directing an ion beam at said surface, said ion beam being disposed to be at an angle A relative to an axis perpendicular to said surface, while rotating said sheet relative to said ion beam about said axis;

thereby removing material from said surface in a region that extends outwards from a side of the mask closest to the ion beam, until said spacer layer has just been exposed;

and also thereby, removing material from said surface in a region that extends outwards from a line parallel to a side of the mask that is furthest from the ion beam, said line being located a distance from the mask that equals said mask thickness times the tangent of said angle A, whereby a width for said second pedestal is determined; and

wherein, at any given instant in time, A equals B plus an angle whose tangent equals the tangent of B divided by the cosine of C, where B is a fixed angle and C is an angle through which the sheet has rotated at said instant in time, thereby causing A to vary continuously between a minimum value of B and a maximum value of A plus B, thereby enabling formation of pedestals of differing shapes with no loss of alignment;

with said temporary mask still in place, depositing a layer of insulating material over all exposed surfaces and then, by means of a liftoff technique, selectively removing said insulating layer and said mask from over said first pedestal; and

then depositing an upper lead layer on said cap layer and on said insulating layer.

26. (original) The process described in claim 25 wherein said insulating material is alumina, silica, or aluminum nitride.

27. (currently amended) The process described in claim 25 wherein said temporary mask is ~~photoresist or~~ a slow etch rate hard mask material such as alumina or tantalum.

28. (original) The process described in claim 25 wherein said read head has a GMR ratio of at least 1% and a series resistance that is less than about 50 ohms.

29. (original) The process described in claim 25 wherein said angle A has a maximum value of up to 90 degrees.

30. (original) The process described in claim 25 wherein said fixed angle B has a value between about 5 and 45 degrees.

31. (original) The process described in claim 25 wherein said second pedestal width is between about 1 and 12 times said first pedestal width.

32. (original) The process described in claim 25 wherein said first pedestal has an aspect ratio between about 1.5 and 30.

33. (original) The process described in claim 25 wherein said first pedestal has sidewalls that are steeper than those of said second pedestal.

34. (original) The process described in claim 25 wherein said first pedestal has a thickness between about 100 and 300 Angstroms and said second pedestal has a thickness between about 100 and 300 Angstroms.

35-38 canceled.